

MHz
1 545-1 559

USA/ /7 MOD

Allocation to Services						
Region 1		Region 2			Region 3	
1 545 - 1 555 <u>1 559</u>						
AERONAUTICAL MOBILE-SATELLITE (R) MOD <u>730C</u> (space-to-Earth)						
722	726A	726D	727	729	729A	730
1 555 - 1 559						
LAND MOBILE-SATELLITE (space-to-Earth)						
722	726A	726D	727	730	730A	730B 730C

Reason:

To harmonize allocations to the mobile-satellite service on a worldwide basis. Allocations of smaller bands of frequencies to specific services restricts the efficient use of the frequencies for mobile-satellite services. See VGE Recommendations 1/7 and 1/8. By allocating this band to the MSS and the application of RR 730C (S5.362) the frequencies available for priority access and immediate availability for aeronautical mobile (R) communications is increased in order to accommodate these requirements.

USA/ /8 SUP 729A
Mob-87
(S5.358)

~~Notwithstanding any other provisions of the Radio Regulations relating to restrictions in the use of the bands allocated to the aeronautical mobile-satellite (R) service for public correspondence, the bands 1 545 - 1 555 MHz and 1 646.5 - 1 656.5 MHz may be authorized by administrations for public correspondence with aircraft earth stations. Such communications must cease immediately, if necessary, to permit transmission of messages with priority 1 to 6 in Article 51.~~

Reason:

Consequential to proposed allocation modifications.

USA/	/9	SUP 730A (S5.360)	In the bands 1 555 - 1 559 MHz and 1 656.5 - 1 660.5 MHz administrations may also authorize aircraft earth stations and ship earth stations to communicate with space stations in the land mobile-satellite (see Resolution 208 (Mob-87)).
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Reason:

Consequential to proposed allocation modifications.

USA/	/10	SUP 730B WARC-92 (S5.361)	Additional allocation: in Australia, Canada and Mexico, the band 1555-1559 MHz is allocated to the mobile-satellite (space-to-Earth) service, the band 1656.5-1660 MHz is allocated to the mobile satellite (Earth-to-space) service, and the band 1660-1660.5 MHz is allocated to the mobile-satellite (Earth-to-space) and the radio astronomy services, on a primary basis.
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Reason: Consequential to proposed allocation modifications.

USA/	/11	MOD 730C WARC-92 (S5.362)	Alternative Allocation: in Argentina and the United States, the band 1555 - 1559 MHz is allocated to the mobile-satellite (space-to-Earth) service, the band 1656.5 - 1660 MHz is allocated to the mobile-satellite (Earth-to-space) service, and the band 1660 - 1660.5 MHz is allocated to the mobile-satellite (Earth-to-space) and radio astronomy services, on a primary basis subject to the following conditions. In the bands 1545 - 1559 MHz and 1646.5 - 1660.5 MHz, the aeronautical mobile-satellite (R) service shall have priority access and
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immediate availability over all other mobile-satellite communications within a network operating under this provision; mobile-satellite systems shall be interoperable with the aeronautical mobile-satellite (R) service; account shall be taken of the priority of safety-related communications in the other mobile-satellite services.

Reason:

To ensure priority access and immediate availability for maritime distress and safety communication throughout the world while providing the capability to support additional mobile satellite services.

USA/ /12 MOD 731E
(S5.364)

The use of the band 1610-1626.5 MHz by the mobile-satellite service (Earth-to-space) and by the radiodetermination-satellite service (Earth-to-space) is subject to the application of the coordination and notification procedures set forth in MOD Resolution 46 (~~WARC-92~~). A mobile earth station operating in either of the services in this band shall not produce an a peak e.i.r.p. density in excess of -15 dB (W/4 kHz) in the part of the band used by systems operating in accordance with the provisions of No. 732 (**No. 953 applies**), unless otherwise agreed by the affected administrations. In the part of the band where such systems are not operating, a mean value of -3 dB (W/4 kHz) is applicable. ~~Stations of the mobile satellite service shall not cause harmful interference to, or claim protection from, stations in the aeronautical radionavigation service, stations operating in accordance with the provisions of No. 732 and stations in the fixed service operating in accordance with the provisions on No. 730.~~

Reason:

Inclusion of the terms "peak" and "mean" are to clarify how the e.i.r.p. density limit should be measured. The text proposed for deletion at the end of this provision is unnecessary to protect the primary allocation status of the identified services

and creates confusion and ambiguity concerning the primary status of the mobile-satellite service in the 1610-1626.5 MHz band. The addition of text to reference RR953 is to ensure that special measures to avoid harmful interference to safety communications are taken into account.

USA/ /13 MOD 733
(S5.367)

The bands ~~1610-1626.5 MHz~~, 5000 - 5250 MHz and 15.4 - 15.7 GHz are also allocated to the aeronautical mobile-satellite (R) service on a primary basis. Such use is subject to agreement obtained under the procedure set forth in Article 14.

Reason:

In the band 1 610 - 1 626.5 MHz, the aeronautical mobile satellite (R) service reservation contained in this footnote is not required since it is adequately reflected in the primary allocation for mobile satellite service.

NOTE: Other modifications to RR 733, in the 5000 - 5250 MHz and 15.4 - 15.7 GHz bands, are proposed in other documents. The final footnote would need to reflect all adopted modifications.

MHz
1 626.5 - 1 631.5

USA/ /14 MOD

Allocation to Services		
Region 1	Region 2	Region 3
1 626.5 - 1 631.5 MARITIME MOBILE-SATELLITE MOD 726C (Earth-to-space) Land Mobile-Satellite (Earth-to-space) 726B 722 726A 726D 727 730	1 626.5 - 1 631.5 MOBILE-SATELLITE (Earth-to-space) MOD 726C 722 726A 726C 726D 727 730	

Reason:

This proposed change will harmonize mobile-satellite allocations on a worldwide basis since mobile-satellite service operations will be conducted in all parts of the world. Allocation of smaller bands of frequencies for specific purposes restricts overall utilization of these bands from a technical point of view. See VGE Recommendations 1/7 and 1/8. It is not necessary to provide explicit indication of the need for priority and protection for safety communications in this band because aeronautical and maritime service priorities are recognized in the paired bands at 1530 - 1544/1631.5 - 1645.5 MHz and 1545 - 1559 /1646.5 - 1660 MHz via RR 726C (S5.353) and 730C (S5.362), respectively.

MHz

1 631.5 - 1 634.5

USA/ /15

Allocation to Services						
Region 1		Region 2			Region 3	
1 631.5 - 1 634.5						
MARITIME MOBILE-SATELLITE MOD <u>726C</u> (Earth-to-space)						
LAND MOBILE-SATELLITE (Earth-to-space)						
722	726A	726C	726D	727	730	734A

Reason:

To harmonize allocations for the mobile-satellite service on a worldwide basis. Allocation of smaller bands of frequencies to specific mobile-satellite services restricts the efficient use of these frequencies from a technical point-of-view. See VGE Recommendations 1/7 and 1/8. In the 1631.5 - 1634.5 MHz band the required priority for and protection of maritime safety communications requirements is indicated in the proposed modification to RR 726C (S5.353).

USA/ /16

SUP 734A
Mob-87
(S5.374)

~~Land earth stations and ship earth stations in the mobile-satellite service operating in the bands 1 631.5 - 1 634.5 MHz and 1 656.5 - 1 660 MHz shall not cause harmful interference to the stations in the fixed service operating in the countries listed in No. 730.~~

Reason:

This footnote is unnecessary because MOD Resolution 46 provides the notification and coordination procedures that will

appropriately handle interference between MSS and Fixed services in these bands.

MHz
1 634.5 - 1 645.5

USA/ /17 MOD

Allocation to Services					
Region 1		Region 2		Region 3	
1 634.5 - 1 645.5					
MARITIME MOBILE-SATELLITE MOD <u>726C</u> (Earth-to-space)					
Land Mobile-Satellite (Earth-to-space) 726B					
727	726A	726C	726D	727	730

Reason:

To harmonize the allocations to the mobile-satellite service on a worldwide basis. Allocations of smaller bands of frequencies to specific services restricts the efficient use of the frequencies from a technical point-of-view. See VGE Recommendations 1/7 and 1/8. Priority access and immediate availability for maritime distress and safety communications within the MSS is indicated in the proposed modification to RR 726C (S5.353).

MHz
1 646.5 - 1 660

USA/ /18 MOD

Allocation to Services		
Region 1	Region 2	Region 3
1 646.5 - 1 656.5 1 660 AERONAUTICAL MOBILE-SATELLITE-(R) MOD 730C (Earth-to-space) 722 726A 726D 727 729A 730 735		
1 656.5 - 1 660 LAND MOBILE-SATELLITE (Earth-to-space) 722 726A 726D 727 730 730A 730B 730C 734A		

Reason:

To harmonize allocations to the mobile-satellite service on a worldwide basis. Allocations of smaller bands of frequencies to specific services restricts the efficient use of the frequencies for mobile-satellite services. See VGE Recommendations 1/7 and 1/8. By allocating this band to the MSS and the application of RR 730C (S5.362) the frequencies available for priority access and immediate availability for aeronautical mobile (R) communications is increased in order to accommodate expected demand for these requirements.

MHz
1 660 - 1 660.5

USA/ /19

Allocation to Services		
Region 1	Region 2	Region 3
1 660 - 1 660.5		
RADIO ASTRONOMY		
LAND MOBILE-SATELLITE (Earth-to-space) MOD 730C		
722 726A 726D 730A 730B 730C 736		

Reason:

To harmonize the allocations to the mobile-satellite service on a worldwide basis. Allocation of smaller bands of frequencies to specific restricts the efficient use of the frequencies from a technical point-of-view. See VGE Recommendations 1/7 and 1/8. Priority of access and immediate availability for aeronautical mobile (R) safety communications within the MSS is indicated in the proposed modification to RR 726C (S5.362).

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United States of America

Proposals for Agenda Item 2.1a) and 3.d)

Mobile-Satellite Services Between 1 and 3 GHz

Introduction:

As described in the CPM report to WRC-95, the interest in the use of spectrum for MSS is evident from the over 250 satellite networks for which advance publication, coordination or notification data has been submitted to the ITU. The CPM report estimates the minimum and likely spectrum requirements for the MSS service will range from 150 MHz to 300 MHz by the year 2005. Taking this into account, the current allocations to MSS are not sufficient to support all the MSS requirements during the period of 2000 - 2005.

The United States proposes to adjust 2 GHz MSS allocations made at WARC-92 in order to take account of the recent 2 GHz PCS allocation that affected the availability of WARC-92 MSS spectrum in the United States. Specifically, the U.S. proposes to add a worldwide primary MSS allocation from 2010-2025 MHz and to add for Regions 1 and 3 a primary allocation from 2165-2170 MHz. As a result there would be 35 MHz of spectrum worldwide in each direction of transmission, that is 1990-2025 MHz (uplink) and 2165-2200 MHz (downlink). These proposals would allow for possible expansion of licensed systems or accommodation of new global satellite networks. This proposal also incorporates ITU-R recommendations which provide sharing criteria to permit compatible operations between MSS and other radio services. Adoption of these proposals will allow MSS and other radio services to operate more efficiently in shared frequency bands.

The United States does not propose at this time adjustments to footnotes RR 746C (WARC-92) and RR 746 B (WARC-92) that give the dates of entry into force for 2 GHz allocations made at WARC-92. Nor, does the United States propose a specific date of entry into force for additional MSS spectrum it proposes at 2010-2025 MHz and 2165-2170 MHz. The United States believes that consideration of all dates of access to 2 GHz MSS spectrum should be made in the context of adopting common, worldwide allocations

with spectrum sufficient to assure competitive access in all three Regions. Thus, depending on WRC-95's decision on the United States's 2 GHz adjustment to make sufficient, aligned spectrum available worldwide there is flexibility with regard to the dates of entry into force. This could include movement of the RR 746B and RR 746C dates, and specific access dates for the proposed new spectrum, including, if necessary, phased access to 2 GHz spectrum.

The detailed proposal including the table of allocation and footnote modifications is provided in the attached tables.

MHz
1930 - 2025

Allocation to Services			
	Region 1	Region 2	Region 3
USA/ /1 MOD	1930 - 1970 1945 FIXED MOBILE 746A	1930 - 1970 1945 FIXED MOBILE Mobile-Satellite (Earth-to-space) 746A	1930 - 1970 1945 FIXED MOBILE 746A
USA/ /2 MOD	1945 - 1970 FIXED MOBILE 746A	1945 - 1970 FIXED MOBILE Mobile-Satellite (Earth-to-space) 746A	1945 - 1970 FIXED MOBILE 746A
USA/ /3 MOD	1970 - 1980 FIXED MOBILE 746A	1970 - 1980 FIXED MOBILE MOBILE-SATELLITE <u>Mobile-Satellite</u> (Earth-to-space) 746A MOD 746B 746C	1970 - 1980 FIXED MOBILE 746A

USA/ /4
MOD

<u>1980 -1990</u> FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 746A MOD <u>746B</u> 746C	<u>1980 -1990</u> FIXED MOBILE MOBILE-SATELLITE <u>Mobile-Satellite</u> (Earth-to-space) 746A MOD <u>746B</u> 746C	<u>1980 -1990</u> FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 746A MOD <u>746B</u> 746C
1980 1990 - 2010 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 746A MOD <u>746B</u> 746C		
2010 - 2025 FIXED MOBILE <u>MOBILE-SATELLITE (Earth-to-space)</u> 746A <u>746D</u>		

USA/ /5
MOD

USA/ /6
MOD

Reason:

This modification realigns the existing mobile-satellite service allocation and provides an additional allocation to the service on a world-wide basis and is consistent with developing fixed and mobile services. This modification will facilitate the introduction of mobile-satellite services globally and follows the VGE recommendation that spectrum be allocated on a world-wide basis.

USA/ /7 MOD
746B (S5.389)

The use of the bands 1970 - 2010 MHz and 2160 - 2200 MHz by the mobile-satellite service shall not commence before 1 January 2005 and is subject to the application of the coordination and notification procedures set forth in MOD Resolution 46 (~~WARC-92~~). In the band 2160 - 2200 MHz coordination of space stations of the mobile-satellite service with respect to terrestrial services is required only if the power flux density or Fractional Degradation Percentage

produced at the earth's Surface exceeds the threshold limits in No. 2566, in Recommendation ITU-R IS. [Document 2/6]. In respect of assignments operating in this band, the provisions of Section II, paragraph 2.2 of **MOD Resolution 46** ~~(WARC-92)~~ shall also be applied to geostationary transmitting space stations with respect to terrestrial stations.

Reason:

The modification to RR 746B will facilitate the introduction of mobile-satellite systems in this band by providing updated technical coordination limits.

USA/ /8 ADD

746D (S5.390A)

The use of the band 2010-2025 MHz is subject to the application of the coordination and notification procedure set forth in MOD Resolution 46.

Reason:

RR 746D (S5.390A) provides the technical basis for use of the 2010-2025 MHz band by the MSS.

MHz
2160 - 2170

USA/ /9
MOD

Allocation of Services		
Region 1	Region 2	Region 3
2160 - 2170 <u>2165</u> FIXED MOBILE 746A	2160 - 2170 <u>2165</u> FIXED MOBILE MOBILE-SATELLITE <u>Mobile-Satellite</u> (space-to-Earth) MOD <u>746B</u> 746C 746A	2160 - 2170 <u>2165</u> FIXED MOBILE 746A

USA/ /10
MOD

<u>2165 - 2170</u> FIXED MOBILE <u>MOBILE-SATELLITE</u> <u>(space-to-Earth)</u> 746A MOD <u>746B</u>	<u>2165 - 2170</u> FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 746A MOD <u>746B</u> 746C	<u>2165 - 2170</u> FIXED MOBILE <u>MOBILE-SATELLITE</u> <u>(space-to-Earth)</u> 746A MOD <u>746B</u>
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Reason:

This modification will provide a world-wide allocation for the mobile-satellite service and facilitate the introduction of mobile-satellite type services on a global basis. This is in accordance with the VGE recommendation that spectrum be allocated on a world-wide basis.

USA/ /11 MOD
753F (S.5402)

The use of the band 2 483.5 - 2 500 MHz by the mobile-satellite service and the radiodetermination-satellite service is subject to the application of the coordination and notification procedures set forth in MOD Resolution ~~46 (WARC-92)~~. Coordination of space stations of the mobile-satellite and radiodetermination-satellite services with respect to terrestrial services is required only if the power-flux density produced at the Earth's surface exceeds ~~the limits in No. 2566~~.

-150 dB (W/m²) in any 4 kHz band for angles of arrival between 0 and 5° above the horizontal plane;

-150 + 0.65 (δ-5) dB (W/m²) in any 4 kHz band for angles of arrival δ (°) between 5 and 25° above the horizontal plane;

-137 dB (W/m²) in any 4 kHz band for angles of arrival between 25 and 90° above the horizontal plane.

These limits relate to the power flux-density which would be obtained under assumed free-space conditions. See Recommendation ITU-R IS [Document

2/61. In respect of assignments operating in this band, the provisions of Section II, paragraph 2.2 of MOD Resolution 46 ~~(WARC-92)~~ shall also be applied to geostationary transmitting space stations with respect to terrestrial stations. Administrations are urged to take all practicable steps to prevent harmful interference to the radio astronomy service from emissions in the 2 483.5 - 2 500 MHz band, especially those caused by second-harmonic radiation that would fall into the 4 990 - 5 000 MHz band allocated exclusively to the radio astronomy service worldwide.

Reason:

As stated in the CPM-95 report, this modification will reduce the number of coordinations required between the mobile-satellite service and the fixed service, while providing adequate protection to the fixed service systems in this band.

United States of America

Proposals for Agenda Items 2.1c and 3d

Allocations for Feeder Links for the Mobile-Satellite Services

Introduction:

WARC-92 allocated spectrum in the 1.6/2.4 GHz frequency bands for mobile-satellite services. The United States has since licensed three non-geostationary MSS systems to operate in these frequency bands. The first U.S. 1.6/2.4 GHz NGSO MSS launch is expected to occur prior to WRC-97. Two additional U.S. NGSO MSS systems may also be licensed after January 1996. In addition to these U.S. MSS systems, on the horizon are the MSS systems of other administrations that will also require access to feeder link spectrum. WRC-95 Agenda Items 2.1c and 3d address allocations for feeder links for the mobile-satellite services.

In addition to service link allocations for mobile-satellite networks, allocations for feeder link operations are necessary before these systems can become a reality. Feeder link networks are needed to complete the service link transmission paths, process the information being transmitted, and interconnect the system with other radiocommunication networks or with other mobile earth stations. Although feeder link earth stations for NGSO MSS systems would operate at fixed locations, and they would operate in frequency bands allocated to the fixed-satellite service according to Radio Regulation No. 22 (S1.21), WRC-95 must designate specific frequency bands for feeder link networks to operate on a co-primary basis with geostationary fixed-satellite networks and other radiocommunication services.

In preparation for WRC-95, ITU-Radiocommunication Study Groups and Task Groups have defined spectrum requirements for various NGSO MSS feeder link networks -- 200-400 MHz in the 4-8 GHz and 8-16 GHz ranges and 200-500 MHz in the 16-30 GHz range; identified candidate frequency bands for NGSO MSS feeder links in the 4 to 8 GHz, 8 to 16 GHz, and 16 to 30 GHz frequency ranges; and evaluated the sharing possibilities with current and future users of the candidate frequency bands. Output from these groups has formed the technical basis for the CPM Report.

The U.S. proposals to modify the international Table of Frequency Allocations in the 4 to 30 GHz range are to support immediate and actual needs of the mobile-satellite service and are based on the output from the CPM-95 and the recommendation by the VGE to simplify the Radio Regulations. Cross references for the simplified Radio Regulations, recommended by the VGE, are in parentheses.

The bands that the U.S. proposes to be designated for MSS feeder links at WRC-95 are listed below. For these bands, in the direction of transmission indicated, it is proposed that Radio Regulation No. 2613 be suspended and a Modified Resolution 46 be applied.

Bands Proposed for Worldwide NGSO MSS Feeder Link Allocations

Frequency Band*	Bandwidth (MHz)	Transmission Direction(s)	Potential Band Pairings
5090-5250 MHz	160	Earth-to-space	6650-7075 MHz
6650-7075 MHz	425	space-to-Earth	5090-5250 MHz 15.45-15.65 GHz
10.7-10.95 GHz	250	Earth-to-space	12.75-13.25 GHz
11.2-11.45 GHz	250	Earth-to-space	12.75-13.25 GHz
12.75-13.25 GHz	500	space-to-Earth	10.7-10.95 GHz 11.2-11.45 GHz
15.45-15.65 GHz	200 200**	space-to-Earth Earth-to-space	19.4-19.7 GHz 6650-7075 MHz
19.4-19.7 GHz 19.3-19.7 GHz	300** 400	Earth-to-space space-to-Earth	15.45-15.65 GHz 29.1-29.5 GHz
29.1-29.5 GHz	400	Earth-to-space	19.3-19.7 GHz

* The proposed frequency bands include, in some cases, the entire candidate frequency band identified by the CPM-95, and in other cases, a subsection of the candidate frequency band.

** Reverse Band Working would be used to accommodate two non-geostationary mobile-satellite systems in the same band or some portion of the band.

MHz
4800-5725

USA/ /1
MOD

Allocation To Services		
Region 1	Region 2	Region 3
5000-5250 5150 AERONAUTICAL RADIONAVIGATION MOD <u>733</u> MOD <u>796</u> MOD <u>797</u> 797A 797B 797D <u>797E</u>		
5150-5250 AERONAUTICAL RADIONAVIGATION <u>FIXED-SATELLITE (Earth-to-space)</u> <u>797C</u> 733 796 797 <u>797A</u> <u>797B</u> <u>797E</u>		

Reason:

Revisions to the Table in the band 5000-5250 MHz are necessary to allocate spectrum specifically for feeder links in the 4 to 8 GHz frequency range to support current and immediate requirements of mobile-satellite services provided from non-geostationary satellite networks. The CPM-95 indicated that studies have shown that co-frequency sharing between microwave landing systems and non-geostationary mobile-satellite service gateway earth stations may be technically feasible. Additionally, the CPM-95, recognizing the safety aspects of microwave landing systems, has recommended that non-geostationary mobile-satellite service feeder links and microwave landing systems should use non-overlapping spectrum. Modification and suppression of Nos. 733 (S5.367) 796 (S5.444), 797 (S5.445), 797A (S5.446) and 797B (S5.447) throughout the 5000-5250 MHz band, and addition of Nos. 797C (S5.447A), 797D (S5.447B) and 797E (S5.447C) is therefore consequential. A potential paired band in the space-to-Earth direction of transmission could be 6650-7075 MHz.

USA/ /2 MOD
733 (S5.367)

The bands ~~1610-1626.5 MHz~~, ~~500-5250~~ 5000-5150 MHz, ~~15.4-15.7~~ 15.4-15.45 GHz, and 15.65-15.7 GHz are also allocated to the aeronautical mobile-satellite (R) service on a primary basis. Such

use is subject to agreement obtained under the procedure set forth in Article 14 (S9).

Reason:

In the band 1610-1626.5 MHz, the aeronautical mobile satellite (R) service reservation contained in this footnote is adequately reflected in the primary allocation for mobile satellite service. Also, the CPM-95 did not identify current use of the 5000-5250 MHz or 15.4-15.7 GHz bands by the aeronautical mobile-satellite (R) service in accordance with No. 733 (S5.367). Further, the CPM-95 indicated that no sharing studies have been conducted to assess the feasibility of sharing between the aeronautical mobile-satellite (R) service and non-geostationary mobile-satellite service feeder links in these bands. Therefore, modification of No. 733 (S5.367) permits use by the aeronautical mobile-satellite (R) service in the 5000-5150 MHz, 15.4-15.45 GHz, and 15.65-15.7 GHz bands.

NOTE: Modification to RR No. 733, in the 1610-1626.5 MHz band, is also proposed in another U.S. document. The final footnote would need to reflect all modifications adopted by the WRC.

**USA/ /3 MOD
796 (S5.444)**

The band ~~5000-5250~~ 5000- 5150 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. The requirements of this system shall take precedence over other uses of the 5000-5090 MHz band. In the event that requirements of microwave landing system cannot be met in the 5000-5090 MHz band, future operations of the microwave landing system may extend into the 5090-5150 MHz band. After January 1, 2015, the microwave landing system shall take precedence over other uses of the 5000-5150 MHz band.

Reason:

Modification of No. 796 (S5.444) would accommodate the microwave landing system in the 5030-5090 MHz band presently coordinated by ICAO, and allow for subsequent expansion (subject to future need) into the 5090-5150 MHz band.

USA/ /4 MOD
797 (S5.445)

The bands ~~5000-5250~~ 5000-5150 MHz, ~~15.4-15.7~~ 15.4-15.45 GHz, and 15.65-15.7 GHz are also allocated to the fixed-satellite service and the inter-satellite service, for connection between one or more earth stations at specified fixed points on the Earth and space stations, when these services are used in conjunction with the aeronautical radionavigation and/or aeronautical mobile (R) service. Such use is subject to agreement obtained under the procedure set forth in Article 14 (S9).

Reason:

The CPM-95 did not identify current use of the 5000-5250 MHz band by the fixed-satellite and inter-satellite services used in conjunction with the aeronautical radionavigation service and/or with the aeronautical mobile (R) services in accordance with No. 797 (S5.445). It indicated further that no sharing studies have been conducted to assess the feasibility of sharing between the non-geostationary mobile-satellite service feeder links and these services in the 5000-5250 MHz band. Therefore, modification of No. 797 (S5.445) permits use by the fixed-satellite and inter-satellite services used in conjunction with the aeronautical radionavigation service and/or with the aeronautical mobile (R) services in the 5000-5150 MHz, 15.4-15.45 GHz, and 15.65-15.7 GHz bands.

USA/ /5 ADD
797C (S5.447A)

Use of the band 5150-5250 MHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for non-geostationary satellite systems of the mobile-satellite service (see Resolution XXX). The provisions of No. 2613 (S22.2) do not apply.

Reason:

The CPM-95 has indicated that Earth-to-space operation of non-geostationary mobile-satellite service feeder links in the 5000-5250 MHz band is technically feasible. Therefore, ADD No. 797C (S5.447A) allocates the 5150-5250 MHz band in this specific direction of transmission to the fixed-satellite service and limits the allocation to non-geostationary mobile-satellite service feeder links. The CPM-95 has also indicated that procedural revisions would be necessary to provide a regulatory base which would permit the orderly operation of non-

geostationary mobile-satellite service feeder links without any regulatory uncertainties to their full operational life. Consequently, the provisions of No. 2613 (S22.2) would not apply in this band for non-geostationary mobile-satellite service feeder links in the Earth-to-space direction of transmission. Resolution XXX calls for studies to facilitate sharing between aeronautical radionavigation services and associated safety systems and the feeder links for the mobile-satellite service. A proposal for Resolution XXX can be found in Annex 1.

USA/ /6 ADD

797D (S5.447B)

The band 5090-5150 MHz is also allocated to the fixed-satellite service (Earth-to-space) on a primary basis and is limited to feeder links for non-geostationary satellite systems of the mobile-satellite service. The provisions of No. 2613 (S22.2) do not apply to this allocation. Sharing between the fixed-satellite service and aeronautical radionavigation services and associated aeronautical safety systems shall be based on appropriate sharing criteria, including technical and operational constraints, to be developed by the ITU-R and reviewed by a future competent World Radiocommunication Conference (see Resolution XXX). In the band 5090-5150 MHz, the following conditions also apply: After January 1, 2010, no new assignments will be made to stations in the fixed-satellite service; after January 1, 2015, existing fixed-satellite service stations will become secondary to stations in the aeronautical radionavigation service and associated safety related systems; and prior to January 1, 2015, all practicable steps shall be taken to avoid mutual interference between the aeronautical radionavigation service and associated safety related systems and the fixed-satellite service.

Reason:

The CPM-95 has indicated that Earth-to-space operation of non-geostationary mobile-satellite service feeder links in the 5000-5250 MHz band is technically feasible. Therefore, ADD No. 797D (S5.447B) allocates also the 5090-5150 MHz band in this specific direction of transmission to the fixed-satellite service and limits the allocation to non-geostationary mobile-satellite service feeder links. The CPM-95 has also indicated that procedural revisions would be necessary to provide a regulatory base which would permit the orderly operation of non-

geostationary mobile-satellite service feeder links without any regulatory uncertainties to their full operational life. Consequently, the provisions of No. 2613 (S22.2) would not apply in this band for non-geostationary mobile-satellite service feeder links in the Earth-to-space direction of transmission. This allocation would accommodate the first generation mobile-satellite service feeder link requirements. Subsequent generations of MSS systems can be designed to operate with only 100 MHz of feeder link spectrum instead of the 160 MHz. Specific dates are provided for transitioning the mobile-satellite feeder links to the 5150-5250 MHz band. A proposal for Resolution XXX can be found in Annex 1.

USA/ /7 ADD

797E (S5.447C)

Use of the band 5090-5250 MHz by the fixed-satellite service (Earth-to-space) is subject to the application of the coordination and notification procedures set forth in MOD Resolution 46.

Reason:

The application of the coordination and notification procedures set forth in MOD Resolution 46 would be necessary for shared use of the 5090-5250 MHz band by non-geostationary mobile-satellite service feeder links.

MHz
5725-7300

USA/ /8
MOD

Allocation To Services		
Region 1	Region 2	Region 3
5925-7075 6650 FIXED FIXED-SATELLITE (Earth-to-space) 792A MOBILE 791 809		
5925 6650-7075 FIXED FIXED-SATELLITE (Earth-to-space) MOD 792A (space-to-Earth) 809A MOBILE 791 809 <u>809B</u>		

Reason:

Revisions to the Table in the 6650-7075 MHz band are necessary to allocate spectrum specifically for feeder links in the 4 to 8 GHz frequency range to support current and immediate requirements of mobile-satellite services provided from non-geostationary satellite networks. The CPM-95 indicated that studies have shown that bi-directional spectrum sharing between the geostationary fixed-satellite service and non-geostationary mobile-satellite service feeder link networks is technically feasible given careful site selection and antenna sizing, and depending on the number of gateway earth stations. Modification of No. 792A (S5.441), suppression of No. 791 (S5.440) in the 6650-7075 MHz band and No. 792A (S5.441) in the 5925-6650 MHz band, and addition of Nos. 809A (S5.458A) and 809B (S5.458B) is therefore consequential. The amount of spectrum proposed for the space-to-Earth direction is greater than in the Earth-to-space direction of transmission in the 4 to 8 GHz range because, as indicated by the CPM-95, more than two non-geostationary mobile-satellite service feeder link networks plan to operate in the space-to-Earth direction in the 6650-7075 MHz band. Potentially, two paired bands in the Earth-to-space direction of transmission could be 5000-5250 MHz and 15.4-15.7 GHz.

USA/ /9 MOD

792A (S5.441)

The use of the bands 4500-4800 MHz (space-to-Earth), 6725-7025 MHz (Earth-to-space), 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space), by the fixed-satellite service shall be in accordance with the provisions of Appendix 30B.

Reason:

The CPM-95 indicated that co-directional sharing is not feasible between the geostationary fixed-satellite service and non-geostationary mobile-satellite service feeder links in the frequency bands identified in No. 792A (S5.441). It did, however, indicate that bi-directional spectrum sharing between the geostationary fixed-satellite service and non-geostationary mobile-satellite service feeder link networks is technically feasible in these bands. MOD 792A (S5.441) would therefore identify the specific direction of transmission for each of the allotment planned bands to which the provisions of Appendix 30B (S30B) would continue to apply and clarify the direction of transmission for each frequency band where bi-directional frequency sharing between the geostationary fixed-satellite service and non-geostationary mobile-satellite service feeder links would be feasible.

USA/ /10 ADD

809A (S5.458A)

The use of the band 6650-7075 MHz (space-to-Earth) by the fixed-satellite service is limited to feeder links for non-geostationary satellite networks of the mobile-satellite service. The provisions of No.2613 (S22.2) do not apply.

Reason:

The CPM-95 has indicated that bi-directional sharing between non-geostationary mobile-satellite service feeder links in the space-to-Earth direction and geostationary fixed-satellite service networks operating in the Earth-to-space direction in the 6650-7075 MHz band is technically feasible. Therefore, ADD No. 809A (S5.458A) allocates the 6650-7075 MHz band to the fixed-satellite service in the space-to-Earth direction of transmission and limits the allocation to non-geostationary mobile-satellite service feeder links. The CPM-95 has also indicated that procedural revisions would be necessary to provide a regulatory base which would permit the orderly operation of non-geostationary mobile-satellite service feeder links without any